SEQUENCE LISTING

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<120> Fluorescent protein

<130> A41348A

<160> 21

<210> 1

<211> 227

<212> PRT

<213> favia favus

<400> 1

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Leu Met Glu Gly
1   5   10   15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
                20   25   30

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
            35   40   45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe Asp Tyr Gly
        50   55   60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65   70   75   80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                85   90   96

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                100   105   110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
            115   120   125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro

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            130                    135                    140
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145                    150                    155                    160
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                   165                    170                    175
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
                   180                    185                    190
Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
              195                    200                    205
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
         210                    215                    220
Leu Ala Lys
225
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<210> 2

<211> 684

<212> DNA

<213> favia favus

<400> 2

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atg agt gtg att aca tca gaa atg aag atg gag ctg ctt atg gaa ggc   48
Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Leu Met Glu Gly
  1              5                   10                  15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag   96
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
               20                  25                  30

cct ttc gag gga ata cag aat atg gac ctg aca gtc ata gag ggc gga  144
Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
          35                  40                  45
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cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc gat tac ggc 192
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe Asp Tyr Gly
      50   55   60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65   70   75   80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
         85   90   96

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
       100   105   110

ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
      115   120   125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
   130   135   140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145   150   155   160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
     165   170   175

aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
     180   185   190

ttc gtg gat cat cga att gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
            195   200   205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
        210   215   220

ctg gcc aag taa   684
Leu Ala Lys
225

<210> 3

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 3

ggiwsbgtia ayggvcayda ntt   23

<210> 4

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 4

aactggaaga attcgcggcc gcaggaa   27

<210> 5

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 5

tgccwtttgc ittigayati ttg   23

<210> 6

<211> 35

<212> DNA   --

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

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gtcitcttyt gcaciacigg iccatydgva ggaaa   35

<210> 7

<211> 36

<212> DNA

<213> Artificial Sequence

<220> --

<223> Description of Artificial Sequence: Synthetic DNA

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ggccacgcgt cgactagtac gggiigggii gggiig   36

<210> 8

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 8

ttgtcaagat atcgaaagcg aacggcagag   30

<210> 9

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 9

ggccacgcgt cgactagtac   20

<210> 10

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 10

gtccaccctc tacgactttg agttccatat   30

<210> 11

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 11

cccggatccg atgagtgtga ttacawcaga aatgaagatg gagc   44

<210> 12

<211> 227

<212> PRT

<213> favia favus

<400> 12

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly
1   5   10   15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
            20   25   30

Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
            35   40   45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly
        50   55   60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65   70   75   80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                85   90   95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                100   105   110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
            115   120   125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
        130   135   140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145   150   155   160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                165   170   175

7/22

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Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
            180             185             190

Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
            195             200             205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
        210             215             220

Leu Ala Lys

225
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<210> 13

<211> 684

<212> DNA

<213> favia favus

<400> 13

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atg agt gtg att aca tca gaa atg aag atg gag ctg cgt atg gaa ggc 48
Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly
    1               5               10              15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
            20              25              30

cct ttc gag gga ata cag aat atg gac ctg aca gtc ata gag ggc gga 144
Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
        35              40              45

cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc cat tac ggc 192
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly
    50              55              60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
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         65                      70                      75                      80
cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa  288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                         85                      90                      95
gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac  336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                        100                     105                     110
ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt  384
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
                        115                     120                     125
cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca  432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
                        130                     135                     140
tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt  480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
        145                     150                     155                     160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc  528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                        165                     170                     175
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac  576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
                        180                     185                     190
ttc gtg gat cat cga att gag ata aca agc cat gac aag gat tac aac  624
Phe Val Asp His Arg Ile Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
                        195                     200                     205
aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg  672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
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        210              215              220

ctg gcc aag taa                                         684

Leu Ala Lys

225
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<210> 14

<211> 227

<212> PRT

<213> favia favus

<400> 14

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Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly
 1               5                10               15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
                20               25               30

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
            35               40               45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly
        50                55                60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65               70               75               80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                85               90               95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                100              105              110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
                115              120              125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
        130              135              140
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Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

145   150   155   160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe

         165   170   175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His

         180   185   190

Phe Val Asp His Arg Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

         195   200   205

Lys Val Lys-Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

         210   215   220

Leu Ala Lys

225

<210> 15

<211> 684

<212> DNA

<213> favia favus

<400> 15

atg agt gtg att aca tca gaa atg aag atg gag ctg cgt atg gaa ggc 48

Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly

 1   5   10   15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

         20   25   30

cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly

         35   40   45

cct ctt cct ttt gct ttc gat atc ctg aca aca gta ttc cat tac ggc 192

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Val Phe His Tyr Gly
    50   55   60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65   70   75   80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
            85   90   95

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
          100   105   110

ggc agc aac tgt ttt gtc tat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
        115   120   125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
        130   135   140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145   150   155   160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
          165   170   175

aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
        180   185   190

ttc gtg gat cat cga atg gag ata aca agc cat gac aag gat tac aac 624

Phe Val Asp His Arg Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn

      195   200   205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg

      210   215   220

ctg gcc aag taa   684

Leu Ala Lys

225

<210> 16

<211> 227

<212> PRT

<213> favia favus

<400> 16

Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Val Arg Met Glu Gly

   1   5   10   15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln

         20   25   30

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly

        35   40   45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly

        50   55   60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys

65   70   75   80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu

        85   90   95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp

        100   105   110

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Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
         115                 120                 125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Ser
         130                 135                 140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145                 150                 155                 160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
         165                 170                 175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
         180                 185                 190

Phe Val Asp His Leu Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
         195                 200                 205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
         210                 215                 220

Leu Ala Lys
225
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<210> 17

<211> 684

<212> DNA

<213> favia favus

<400> 17

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atg agt gtg att aca tca gaa atg aag atc gag gtg cgt atg gaa ggc  48
Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Val Arg Met Glu Gly
  1                 5                  10                  15

gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag  96
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
         20                  25                  30
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cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144
Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
            35                  40                  45

cct ctt cct ttt gct ttc gat atc ctg aca aca gca ttc cat tac ggc 192
Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
            50                  55                  60

aac cgg gta ttt gtc aaa tac cca gaa gaa ata gta gac tac ttc aag 240
Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
    65                  70                  75                  80

cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                85                  90                  95

gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                100                 105                 110

ggc agc aac tgt ttt gtc aat gaa att cga ttt gat ggt gtg aac ttt 384
Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
            115                 120                 125

cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag tca 432
Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Ser
    130                 135                 140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145                 150                 155                 160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                165                 170                 175
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aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
            180                 185                 190

ttc gtg gat cat cta atg gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp His Leu Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
            195                 200                 205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
        210                 215                 220

ctg gcc aag taa                                                  684
Leu Ala Lys
225
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<210> 18

<211> 227

<212> PRT

<213> favia favus

<400> 18

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Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Leu Arg Met Glu Gly
 1               5                  10                 15

Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
                20                 25                 30

Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
            35                 40                 45

Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
        50                 55                 60

Asn Arg Val Phe Val Glu Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65                 70                 75                 80
```

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                    85   90   95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                    100   105   110

Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
                    115   120   125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
                    130   135   140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145   150   155   160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                    165   170   175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
                    180   185   190

Phe Val Asp His Gln Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
                    195   200   205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
                    210   215   220

Leu Ala Lys

225

<210> 19

<211> 684

<212> DNA

<213> favia favus

<400> 19

atg agt gtg att aca tca gaa atg aag atc gag ctg cgt atg gaa ggc 48

Met Ser Val Ile Thr Ser Glu Met Lys Ile Glu Leu Arg Met Glu Gly

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         1                    5                        10                         15
       gct gta aac ggg cac aag ttc gtg att aca ggg aaa gga agt ggc cag 96
       Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
                         20                    25                        30
       cct ttc gag gga ata cag aat gtg gac ctg aca gtc ata gag ggc gga 144
       Pro Phe Glu Gly Ile Gln Asn Val Asp Leu Thr Val Ile Glu Gly Gly
                    35                    40                        45
       cct ctt cct ttt gct ttc gat atc ctg aca aca gca ttc cat tac ggc 192
       Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe His Tyr Gly
                50                    55                    60
       aac cgg gta ttt gtc gaa tac cca gaa gaa ata gta gac tac ttc aag 240
       Asn Arg Val Phe Val Glu Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
           65                    70                    75                        80
       cag tcg ttt cct gag ggt tat tct tgg gaa cga agc atg agt tac gaa 288
       Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Ser Tyr Glu
                         85                    90                        95
       gac ggg gga att tgc ctc gcc aca aac aat ata acg atg aag aaa gac 336
       Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
                         100                   105                       110
       ggc agc aac tgt ttt gtc aat gaa att cga ttt gat ggt gtg aac ttt 384
       Gly Ser Asn Cys Phe Val Asn Glu Ile Arg Phe Asp Gly Val Asn Phe
                    115                   120                       125
       cct gcc aat ggt cca gtt atg cag agg aag acc gtc aaa tgg gag cca 432
       Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
           130                   135                       140
       tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gta 480
       Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
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        145                  150                   155                   160
aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
                     165                   170                   175
aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
                     180                   185                   190
ttc gtg gat cat caa atg gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp His Gln Met Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
               195                   200                   205
aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
           210                   215                   220
ctg gcc aag taa                                               684
Leu Ala Lys
225
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<210> 20

<211> 227

<212> PRT

<213> favia favus

<400> 20

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Met Ser Val Ile Thr Ser Glu Met Lys Met Glu Leu Arg Met Glu Gly
 1               5                    10                   15
Ala Val Asn Gly His Lys Phe Val Ile Thr Gly Lys Gly Ser Gly Gln
                20                   25                   30
Pro Phe Glu Gly Ile Gln Asn Met Asp Leu Thr Val Ile Glu Gly Gly
           35                   40                   45
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Pro Leu Pro Phe Ala Phe Asp Ile Leu Thr Thr Ala Phe Gly His Gly
    50   55   60

Asn Arg Val Phe Val Lys Tyr Pro Glu Glu Ile Val Asp Tyr Phe Lys
65   70   75   80

Gln Ser Phe Pro Glu Gly Tyr Ser Trp Glu Arg Ser Met Xaa Tyr Glu
           85   90   95

Asp Gly Gly Ile Cys Leu Ala Thr Asn Asn Ile Thr Met Lys Lys Asp
          100   105   110

Gly Ser Asn Cys Phe Val Tyr Glu Ile Arg Phe Asp Gly Val Asn Phe
          115   120   125

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
       130   135   140

Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val
145   150   155   160

Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
          165   170   175

Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
         180   185   190

Phe Val Asp Leu Arg Thr Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
         195   200   205

Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
      210   215   220

Leu Ala Lys
225

<210> 21

<211> 684

<212> DNA

<213> favia favus

<400> 21

atg	agt	gtg	att	aca	tca	gaa	atg	aag	atg	gag	ctg	cgt	atg	gaa	ggc	48
Met	Ser	Val	Ile	Thr	Ser	Glu	Met	Lys	Met	Glu	Leu	Arg	Met	Glu	Gly	

```
1           5               10              15
```

gct	gta	aac	ggg	cac	aag	ttc	gtg	att	aca	ggg	aaa	gga	agt	ggc	cag	96
Ala	Val	Asn	Gly	His	Lys	Phe	Val	Ile	Thr	Gly	Lys	Gly	Ser	Gly	Gln	

```
        20              25              30
```

cct	ttc	gag	gga	ata	cag	aat	atg	gac	ctg	aca	gtc	ata	gag	ggc	gga	144
Pro	Phe	Glu	Gly	Ile	Gln	Asn	Met	Asp	Leu	Thr	Val	Ile	Glu	Gly	Gly	

```
        35              40              45
```

cct	ctt	cct	ttt	gct	ttc	gat	atc	ctg	aca	aca	gca	ttc	ggt	cac	ggc	192
Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	Thr	Thr	Ala	Phe	Gly	His	Gly	

```
        50              55              60
```

aac	cgg	gta	ttt	gtc	aaa	tac	cca	gaa	gaa	ata	gta	gac	tac	ttc	aag	240
Asn	Arg	Val	Phe	Val	Lys	Tyr	Pro	Glu	Glu	Ile	Val	Asp	Tyr	Phe	Lys	

```
65              70              75              80
```

cag	tcg	ttt	cct	gag	ggt	tat	tct	tgg	gaa	cga	agc	atg	agt	tac	gaa	288
Gln	Ser	Phe	Pro	Glu	Gly	Tyr	Ser	Trp	Glu	Arg	Ser	Met	Xaa	Tyr	Glu	

```
        85              90              95
```

gac	ggg	gga	att	tgc	ctc	gcc	aca	aac	aat	ata	acg	atg	aag	aaa	gac	336
Asp	Gly	Gly	Ile	Cys	Leu	Ala	Thr	Asn	Asn	Ile	Thr	Met	Lys	Lys	Asp	

```
        100             105             110
```

ggc	agc	aac	tgt	ttt	gtc	tat	gaa	att	cga	ttt	gat	ggt	gtg	aac	ttt	384
Gly	Ser	Asn	Cys	Phe	Val	Tyr	Glu	Ile	Arg	Phe	Asp	Gly	Val	Asn	Phe	

```
        115             120             125
```

cct	gcc	aat	ggt	cca	gtt	atg	cag	agg	aag	acc	gtc	aaa	tgg	gag	cca	432

Pro Ala Asn Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
    130   135   140

tcc act gag aaa atg tat gtg cgt gat gga gtg ctg aag ggt gat gtt 480
Ser Thr Glu Lys Met Tyr Val Arg Asp Gly Val Leu Lys Gly Asp Val

145   150   155   160

aac atg gct ctg ttg ctt caa gga ggt ggc cat tac cga tgt gac ttc 528
Asn Met Ala Leu Leu Leu Gln Gly Gly Gly His Tyr Arg Cys Asp Phe
             165   170   175

aga act act tac aaa gca aag aag gtt gtc cag ttg cca gac tat cac 576
Arg Thr Thr Tyr Lys Ala Lys Lys Val Val Gln Leu Pro Asp Tyr His
             180   185   190

ttc gtg gat ctt cga act gag ata aca agc cat gac aag gat tac aac 624
Phe Val Asp Leu Arg Thr Glu Ile Thr Ser His Asp Lys Asp Tyr Asn
             195   200   205

aag gtt aag ctg tat gag cat gct aaa gct cat tcc ggg ctg cca agg 672
Lys Val Lys Leu Tyr Glu His Ala Lys Ala His Ser Gly Leu Pro Arg
    210   215   220

ctg gcc aag taa   684
Leu Ala Lys

225